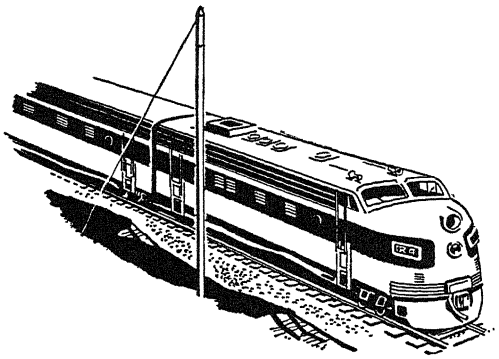
Bulletin 468



GRAIN TRANSPORTATION In Ohio

Cooperative Extension Service
The Ohio State University

GRAIN TRANSPORTATION IN OHIO

By ROSS MILNER*

This report deals with the volume of grain shipped by rail and by truck from country elevators in Ohio.

In June, 1965, a questionnaire was mailed to all country elevator managers in Ohio to inquire the volume of corn, wheat, and soybeans shipped by rail and truck for each of the three marketing years, 1962-63, 1963-64, and 1964-65. Also, managers were asked to indicate changes they expected to make in the year 1964-65 in rail versus truck shipments. Replies were placed on computer cards and tabulated.

Objectives of the Study—

1. To determine the proportion of grain currently transported by railroads and trucks in selected areas in Ohio.
2. To determine responses by managers of grain firms to recent changes in rail rate charges for transporting corn.

Situation

The function of grain carriers is to move grain to points of greater demand within the state, the United States, or the world. Ohio grain is moved in large quantities to all three areas.

In 1964-65, Ohio sales of corn amounted to 5 per cent, wheat 3 per cent, soybeans 6 per cent, and oats 3 per cent of respective sales in the United States.

Sales of grain produced in Ohio vary significantly from year to year. Sales during the last three years are shown in Table 1.

Table 1

Grain Sales in Ohio in Bushels

Marketing Year	Corn Bu.	Wheat Bu.	Soybeans Bu.	Oats Bu.
1962-63	82,979,000	35,405,000	43,075,000	15,944,000
1963-64	99,631,000	50,031,000	39,569,000	13,135,000
1964-65	80,835,000	40,245,000	40,017,000	12,686,000
Average	87,815,000	41,894,000	40,887,000	15,588,000

Source: CrPr 1 Statistical Reporting Service, USDA.

*Professor, grain marketing, Cooperative Extension Service

Acknowledgments: Francis Walker, Associate Professor, Department of Agricultural Economics and Rural Sociology, made valuable contributions to this study. The 128 country managers and 8 terminal managers who provided information also made an essential contribution.

The northwestern two-thirds of Ohio is the principal grain sales area in the state.

Types of Transportation Available

The Ohio grain industry has a choice between rail and highway carriers in nearly all communities. There is an excellent network of both railroads and highways. The problem of choosing between rail and truck transportation is becoming more involved and more important. Railroads and trucks have speeded up competition by offering new types of rates and services. Price rate competition between the two types of carriers has also increased.

Ohio, unlike many states, does not have intra-state waterways which permit the use of barges. Although the Ohio River is available, it is not used for transporting grain grown in Ohio. The small volume of surplus grain for sale adjacent to the River and higher priced markets in eastern United States discourage the use of it.

The St. Lawrence Seaway opened in 1959 and has provided an additional export outlet for sales of northwestern Ohio grain. This market outlet is highly competitive with domestic markets in eastern United States. Although the Seaway has many Ohio ports, Toledo is the only port used for exporting grain produced in Ohio. The Seaway is available for domestic grain transportation, but to date domestic shipments from Ohio have not been important.

Changes in Transportation Rates Require Changes in Grain Marketing

Changes in transportation costs and services have created a need for many country elevators, terminals, and processors to replan and reorganize their plants and their functions. These involve plant location, rail siding, truck dumps, scales, and loading facilities. Making rail rates based on mileage to the processor or exporter may create a need for much more storage capacity at country locations. Country elevators, terminals, and processors are all concerned with the replanning that should be done because of these new types of rail tariffs. For example, it has been commonly believed that these rates would induce corn shippers to change from indirect routing through terminals to direct routing from producing points to points of consumption. Thus, terminals would be by-passed.

The new type of rail rate is referred to as the "mileage rate." Mileage rates consist of published rates from numerous small geographic areas to other small geographic areas. Mileage rates vary with the distance between areas, although not in direct proportion. At present, they do not provide for stopping-in-transit privileges, or for indirect routing via terminal warehouses. (However, such provisions, with charges for additional services, have been proposed.) Thus, mileage rates are lower than traditional rates which provide

Ohio is subdivided into "Country Elevator Areas" based on market similarities. Involved are terminal locations, rail rates, and market outlets.

"full services," if desired at no additional cost. Comparisons may be made of the percentages of corn shipped by rail from country elevators before and after mileage rates were introduced.

Mileage rates were in effect on corn during the entire marketing year 1964-65. (They began in October 1964.) Also, the traditional full-service rates are still in effect.

This study, therefore, shows the relationship of rail to truck transportation of corn (and other grains) shipped from country points before and after mileage rates became effective. It does not, however, show the shipping destination.

The tables show the rail volume in per cent of corn, wheat, and soybeans shipped from country elevators. Trucks transported the remaining percentage of the volume. For example, Table 2 shows that in the year 1964-1965 in the northern area rails transported 40 per cent of the corn; hence, trucks transported 60 per cent of the corn.

Implications

Mileage rates were initiated by the railroads for the express purpose of increasing the volume of corn transported by rail. These rates were not effective during the corn marketing years, 1962-63 and 1963-64, but were effective during the entire marketing year 1964-65. Thus, comparisons may be made of the percentage of corn shipped by rail before and after mileage rates were introduced.

Tables 2, 3, and 4 all show that there was a decline in 1964-65 in rail shipments from country elevators. This is true for the state as a whole and for all areas except the southern area and the "58½ cent section" of the central area. Have the railroads actually lost ton-mile transportation of grain originating in Ohio? The trend in ton miles by rail and truck are not available from this study.

Table 2

Grain Shipped by Rail from Country Elevators by Areas* 1962-65

Marketing Year	Northern Area	Central Area	Southern Area	Western Area	Eastern Area	Ohio Area
			Percent of Grain Shipped by Rail			
			CORN			
1962-63	50	65	43	64	67	57
1963-64	48	75	56	64	46	58
1964-65	40	63	48	55	60	50
			WHEAT			
1962-63	52	96	88	66	97	75
1963-64	37	97	85	69	96	69
1964-65	50	92	87	75	91	74
			SOYBEANS			
1962-63	36	91	70	73	34	57
1963-64	35	92	81	73	26	60
1964-65	37	90	81	75	37	58

* See map for composition of areas Percentages are determined from bushels shipped

The percentage of corn transported by rail from country points decreased in all areas except the Southern area Table 3 shows, however, that there was a sharp increase in rail shipments of corn in the 58½¢ N Y rate sector of the Central area

Table 3

Percentage of Grain Shipped by Rail from Country Elevators in the 58½ Cent and 55½ Rail Rate Group Territories[1] 1962-65

Marketing Year	Corn		Wheat		Soybeans	
	Rate to N.Y.C.		Rate to N.Y.C.		Rate to N.Y.C.	
	58½¢	55½¢	58½¢	55½¢	58½¢	55½¢
			NORTHERN AREA			
1962-63	44	52	31	62	17	45
1963-64	42	50	12	55	25	40
1964-65	20	46	24	66	33	40
			CENTRAL AREA			
1962-63	57	76	97	94	95	85
1963-64	71	79	99	95	95	88
1964-65	72	53	93	90	93	86
			SOUTHERN AREA[2]			
1962-63	43		88		70	
1963-64	56		85		81	
1964-65	48		87		81	
			WESTERN AREA[2]			
1962-63	64		66		73	
1963-64	64		69		73	
1964-65	55		75		75	
			OHIO AREA[3]			
1962-63	56	56	72	69	62	54
1963-64	59	57	66	66	67	52
1964-65	50	48	72	72	67	49

[1] Transit rates are per hundred weight to New York City. Percentages are determined from bushels shipped.

[2] The Southern and Western areas have only the 58½ cent New York City transit rail rate.

[3] The Ohio Area in this table includes only the percentage of grain shipped by rail in Ohio from the 58½ cent and 55½ cent transit rail rate group territories. Thus, shipments by rail and truck from 54 cent and 49 cent rail rate group territories in Eastern Ohio are omitted.

Observations show that during the 1964-65 corn marketing year some shippers changed from rail to truck for "short hauls" between the country elevator and the terminal. From the terminal, corn then moved by rail to its more distant destinations. Thus, the previously used "transit rates," whereby corn had moved by rail from the country elevator to the terminal for stop-over, thence again by rail to its final destination, were forsaken. In these instances, trucks took over the short hauls from country elevator to terminal, but rails retained the "long haul" from terminal to processor under the mileage rate schedule. The net effect of rail mileage rates on volume of ton miles between rail and truck is not shown. The rail ton mileage, which originated at the country elevator, declined in 1964-65 (see Tables 2, 3, and 4). On the other hand, rail ton mileage between

other points may have increased as a result of rail mileage rate schedules.

For example, a reduction in rail rates in the Southern Freight Territory (which extends northward to the Ohio River) has induced many Ohio shippers to southern processing points to transfer grain at the Ohio River from trucks to rails for the remaining haul. As a result of this transfer to rails, through shipments by truck from points of origin in Ohio to southern processing points have greatly declined. Thus, this change results in an increase in rail ton mileage.

Opinion has been commonly expressed that mileage rates would cause a restructuring of functions performed by country elevators. This opinion provides that some country elevators would, in effect, become sub-terminals and would include the functions of terminal warehouses in their activities. Thus, the enlarged country elevator (or small terminal) would dry, blend, store, own, hedge, and merchandise grain and direct its transportation.

Observations show that several country elevators are or have become sub-terminals. The study, however, supports the observation that many country elevators cannot quickly add these functions. Adding the additional functions requires a feasibility study, decision to make the change, planning, obtaining capital, building storage,

Table 4

Grain Shipped by Rail from Country Elevators 1962-65 by Bushels of Storage Capacity at Country Elevators

Marketing Year	Bushels of Storage Capacity at the Country Elevator						
	Under 50,000	50,000 99,999	100,000 149,999	150,000 199,999	200,000 299,999	300,000 and Over	Ohio
	Percent of Grain Shipped by Rail						
			CORN				
1962-63	65	79	73	66	47	47	57
1963-64	70	82	65	66	45	41	58
1964-65	53	76	54	61	40	42	50
			WHEAT				
1962-63	83	82	54	68	60	73	75
1963-64	78	77	53	49	46	74	69
1964-65	81	79	70	55	51	79	74
			SOYBEANS				
1962-63	65	64	55	39	44	61	57
1963-64	68	73	52	42	49	58	60
1964-65	62	70	71	44	49	58	58

Percentages are determined from bushels shipped.

In moving corn, country elevators with over 200,000 bushels of storage capacity are using truck carriers more than the smaller elevators.

adding dryers, and acquiring additional knowledge of hedging, merchandising, and transportation.

It is a matter of record that railroads are continuing to make changes in rail rate structures and tariffs. It seems apparent that both rails and trucks will use services and rates as competitive inducements to increase their shares of the grain transportation business.

Basically, transportation affects nearly all the functions of the grain marketing industry. Thus, all members of the industry should give maximum consideration to present and probable future transportation costs and services by both rails and trucks as they plan their adjustments.

Table 5

Anticipated Trends in Grain to be Shipped by Rail from Country Elevators 1965-66

(As Indicated by Country Elevator Respondents)

Anticipated Trend	Bushels of Storage Capacity at the Country Elevator						
	Under 50,000	50,000 99,999	100,000 149,000	150,000 199,999	200,000 299,999	300,000 and Over	Sum of Replies
	Percent of Country Elevators Responding						
			CORN				
Rail Increase	29	36	83	80	22	37	37
Truck Increase	27	43	0	0	33	45	30
No Change	30	21	17	20	34	6	24
No Reply	14	0	0	0	11	12	9
Total	100	100	100	100	100	100	100
			WHEAT				
Rail Increase	29	29	33	60	11	31	29
Truck Increase	20	29	33	0	33	38	25
No Change	42	42	17	40	45	18	37
No Reply	9	0	17	0	11	13	99
Total	100	100	100	100	100	100	100
			SOYBEANS				
Rail Increase	27	36	17	40	23	38	29
Truck Increase	24	21	50	20	23	31	26
No Change	38	43	17	40	43	19	35
No Reply	11	0	16	0	11	12	10
Total	100	100	100	100	100	100	100

Table 5 shows that country elevator managers are about equally divided in their opinions about the future trend in rail versus truck movement of corn, wheat, and soybeans.

11/65—5M

The Ohio State University cooperation with the U. S. Department of Agriculture. Cooperative Extension Service, Roy M. Kottman, Director, Columbus, Ohio, 43210. Printed and distributed in furtherance of Acts of May 8 and June 30, 1914.